

BERING SEA - ALEUTIAN ISLANDS STATE-WATERS GROUND FISH
FISHERIES AND GROUND FISH HARVEST FROM STATE WATERS UNDER PARALLEL
MANAGEMENT IN 2001



By

Michael E. Cavin, Jr.

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AUTHOR

Michael Cavin is a fishery biologist for the Alaska Department of Fish and Game, Division of Commercial Fisheries, 211 Mission Road, Kodiak, Alaska 99615

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ABSTRACT

The Alaska Department of Fish and Game manages fisheries for sablefish *Anoplopoma fimbria* and black rockfish *Sebastes melanops* in state waters of the Aleutian Islands. State waters of the State of Alaska are from shore to 3 nautical miles offshore. This report summarizes harvest and management of these fisheries since their inception, 1995 for sablefish and 1994 for black rockfish, through the 2001 season.

The Alaska Board of Fisheries created vessel size and gear restriction zones in state waters of the central Aleutian Islands. These regulations are summarized and their effects are discussed.

For all other state-waters groundfish the state adopts the seasons, bycatch limits and allowable gear types in the adjacent Exclusive Economic Zone (EEZ) and promulgated by the National Marine Fisheries Service (NMFS). ADF&G issues an emergency order (EO) on an annual basis to establish the commercial groundfish seasons, bycatch limits and gear types in state waters for those fisheries not actively managed by the State of Alaska to coincide with federal regulations in waters of the adjacent EEZ, 3 to 200 nautical miles offshore. This report summarizes the harvest of groundfish from state waters of the Bering Sea – Aleutian Islands Area in those parallel fisheries from 1995 to 2001.

INTRODUCTION

The Alaska Department of Fish and Game (ADF&G) actively manages three groundfish fisheries in the state waters of the Bering Sea – Aleutian Islands (BSAI) Area (Figure 1) and the South Alaska Peninsula Area. Those fisheries are sablefish *Anoplopoma fimbria*, black rockfish *Sebastes melanops*, and Pacific cod *Gadus macrocephalus*. Waters under the jurisdiction of the State of Alaska are from the shore to 3 nautical miles offshore. This report describes the sablefish fishery from 1995 through 2001 and the black rockfish fishery from 1994 through 2001. A separate ADF&G Regional Informational Report (Ruccio and Jackson 2002) covers the state managed Pacific cod fishery that occurs in a portion of this area.

The Alaska Board of Fisheries (BOF), in March 2000, established vessel length and gear restrictions for vessels fishing Pacific cod and rockfish in state waters of the central Aleutian Islands between 175°30' and 177° W long. This report summarizes those regulations, which became effective in July 2000, and the initial effects of those regulations.

Parallel groundfish fisheries occur in state waters to correspond to the season, gear and bycatch of the federal season in adjacent federal waters. Parallel groundfish fishing occurs throughout the Bering Sea – Aleutian Islands Area. This report summarizes the harvest from state waters in those fisheries from 1995 through 2001.

Based on the ADF&G fish ticket database and the fish ticket software program *Neptune* as of May 2002, this report reflects the most recent additions and corrections to that database. The statistical area surrounding Bobrof Island in the central Aleutian Islands contained both state and federal waters until 2000. Sablefish harvest from this area was considered as state-water harvest unless verified as from federal waters by interview of the vessel captain or by logbook examination. In 2001, statistical areas were revised, and the territorial waters surrounding Bobrof Island are now entirely state statistical areas.

ALEUTIAN ISLANDS STATE-WATER SABLEFISH FISHERY

Historic Background

In 1995, NMFS implemented an individual fishing quota (IFQ) system for the harvest of sablefish. The Alaska Department of Law advised that the harvest of sablefish in the state waters of Alaska could not be limited to only IFQ permit holders, therefore any holder of a valid Commercial Fisheries Entry Commission (CFEC) interim use permit for statewide sablefish could participate. A fishery for sablefish was established in areas of the state where the historical harvest of this species was of sufficient quantity to allow for a manageable fishery. The Aleutian Islands state-water sablefish fishery includes all state waters of the Aleutian Islands south of the latitude of Cape Sarichef (54°36' N lat.), and west of the longitude of Scotch Cap Light (164°44' W long.), (Figure 2).

ADF&G originally established March 15 as the opening date and November 15 as the closing date for this new fishery, unless the guideline harvest level (GHL) was obtained and the fishery was closed earlier by EO. The opening and closing dates were chosen to run concurrent with the federal IFQ fishery. In 2001 the Alaska Board of Fisheries changed the season opening for sablefish fishing in the state-waters fishery from March 15 to May 15. Historically most fishing occurred in late spring and summer. The later season was requested by the public to provide small vessel operators an opportunity to take advantage of the better weather conditions. The GHL was set according to recent state-water harvest history, thus the 1995 season opened with a GHL of 400,000 pounds¹. From 1995 to 2000, all legal groundfish gear types could be used to harvest sablefish in state waters. Effective 2001, longline, pot, jig, and hand troll became the only legal gear types. Registration for the sablefish fishery was similar to other groundfish fisheries, except vessels were registered for only that fishery.

NMFS surveys in 1995 and 1996 showed sablefish stock reductions in the federal Bering Sea, Aleutian Islands, and Western Gulf of Alaska Sablefish Regulatory Areas, therefore lower state-waters GHLs were established for the 1996 and 1997 state-water fisheries. In 1998 the total allowable catch (TAC) for the federal Bering Sea and Aleutian Islands Sablefish Regulatory Areas increased by 16.5 percent (Table 1). However, the department did not increase the quota in state waters in order to help mitigate the over harvest, which occurred during the previous two seasons primarily by IFQ vessels. The federal TAC increased slightly in 1999; however, due to poor fishery performance during the previous year, ADF&G decreased the GHL by seven percent. Based on recent fishery performance, historic fishery harvest, and the federal TAC, the GHL for the 2000 fishery was set at 400,000 pounds, an increase of 60% over the 1999 fishery.

Since the 1995 fishery, most of the harvest has occurred west of 170° W long. Problems with killer whale, *Orcinus orca*, predation on the fishers' catch west of 170° W. long., and the establishment of a new processor on Adak Island in 1999 may help to explain the general shift in effort to western areas.

2001 Fishery

ADF&G issued a news release on February 16 announcing a GHL of 425,000 pounds (Table 1). This GHL represents a 6% increase over the 2000 fishery and was based on recent fishery performance, historic fishery harvest and the federal TAC. Harvest of sablefish in state waters since 1990 has averaged approximately 5% of the TAC established by the NMFS survey for the Eastern Bering Sea and Aleutian Islands Sablefish Regulatory Areas. Accordingly, the GHL for 2001 could have been 448,000 pounds; however, the department established a lower GHL due to a history of continued harvest from state waters after closure announcements.

The fishery opened May 15, and was managed primarily by reviewing weekly processor catch reports and fish tickets, monitoring the average pounds delivered for each vessel and plotting logbook data to verify harvest location. Fishing effort started in May and deliveries began within a week after the opening. The cumulative harvest reached approximately 67,000 pounds by the end of May; 232,000 pounds through June; 377,000 pounds through July; and by August 6 the

¹ All weights refer to whole pounds.

estimated cumulative harvest was 390,000 pounds. A closure announcement was made that afternoon to close the fishery at noon, on August 8. During the 2001 fishery, 31 vessels landed 464,241 pounds of sablefish from state waters. Four of these vessels were not registered for the fishery and landed 1,547 pounds. Seven vessels illegally landed 9,759 pounds of sablefish in state waters prior to and after the closure (Table 2). Longline gear accounted for 439,612 pounds (95%) of the total harvest, pot gear accounted for 24,419 pounds (5%), and 210 pounds (less than 1%) was landed as bycatch by a trawl vessel (Table 3). Four catcher processors (CP's) registered for the fishery; however only two participated. One of the CP's participated during part of the season as a catcher-only vessel, and only one had quota shares². Of the 41 vessels registered for the fishery, 15 never fished state waters.

The average exvessel price for the 2001 fishery was \$2.85 per pound (Table 4). The fishery value was approximately \$788,000, the second highest since 1995.

Most of the fishery occurred in waters west of 175° W long., which is consistent with previous years (Figure 3). Despite having the highest recorded state water GHL, the 2001 fishery lasted only 85 days, the shortest since the fishery started in 1995.

Twenty-three non-quota vessels made 84 landings of state-water sablefish, delivering 431,920 pounds, or 93% of the harvest (Table 5). Eight IFQ vessels made 15 landings totaling 32,321 pounds, or 7% of the harvest.

Summary

The Aleutian Islands state-water sablefish fishery started in 1995. During the previous seven years 228 vessels have harvested over 2.4 million pounds, for an exvessel fishery value of over \$4.3 million. In the Aleutian Islands sablefish fishery through 2001, non-quota fishers accounted for 39% of the fleet, 62% of the deliveries and 63% of the harvest. Twenty-eight catcher-processors have participated in this fishery through 2001, twenty of which had quota shares.

The Aleutian Islands state-water fishery is open to all fishers with a valid CFEC interim use permit for statewide sablefish. There has been a misconception by some CDQ and IFQ fishers who believe the federal permit allows them to fish in state waters without registration and regardless of closures of state waters. Documentation of all violations has been provided to the Department of Public Safety, Division of Fish and Wildlife Protection for further action. ADF&G and NMFS have continued to increase efforts to educate the fishing fleet about state registration requirements.

The harvest of sablefish in state waters of the Aleutian Islands has decreased since 1985 from 1.4 million pounds to 255,000 pounds in 1998. Harvest in the state-managed fishery was 269,000 pounds during the first year, and has ranged from a low of 255,000 pounds in 1998 to a high of 464,000 pounds in 2001 (Table 1).

² Quota shares defined as vessels with federal IFQ or Community Development Quota (CDQ).

Status of Stock

NMFS has conducted annual longline surveys covering portions of the Aleutian Islands sablefish fishery area since 1978. Initially, the survey was a cooperative effort with Japan and covered the Gulf of Alaska. The survey was expanded to include the Aleutian Islands in 1980 and the eastern Bering Sea in 1982. Results of the surveys through 1994 show a decrease in sablefish abundance from the mid 1980s.

In 1987, NMFS started an independent annual longline survey in the Gulf of Alaska. That survey was expanded to include biennial sampling of the eastern Aleutian Islands beginning in 1996 and the eastern Bering Sea beginning in 1997. The survey, which covers a portion of the state-waters fishery area, shows that sablefish abundance appears low, but slowly increasing (Sigler et al, 2001). Sablefish abundance, however, is still well below the levels observed in 1986 and 1987.

ALEUTIAN ISLANDS BLACK ROCKFISH FISHERY

Historic Background

ADF&G established a directed fishery for nearshore pelagic shelf rockfish in state waters of the eastern Aleutian Islands in December 1994. The pelagic shelf rockfish group includes black *Sebastes melanops*, blue *S. mystinus*, widow *S. entomelas*, yellowtail *S. flavidus* and dusky *S. ciliatus* rockfish. In the eastern Aleutian Islands, this group is represented by black and dusky rockfish due to the limited distribution of the other species.

The establishment of this fishery was in response to local public inquiries regarding the possibility of a state-managed black rockfish fishery. Under federal management black and other pelagic shelf rockfish were included in the “other rockfish” assemblage. This assemblage includes all rockfish species in the Bering Sea and Aleutian Islands except shortraker *S. borealis*, rougheye *S. aleutianus*, sharpchin *S. zacentrus*, northern *S. polyspinis* rockfish and Pacific ocean perch *S. alutus*.

Directed fisheries in both state and federal waters for the “other rockfish” assemblage occurred prior to 1994, but were of progressively shorter duration. The fisheries were open to all gear types; however, they were managed as trawl fisheries as the harvest was predominantly by trawl vessels. Black and other pelagic shelf rockfish had become available to the local fleet primarily as bycatch in jig and longline fisheries for other groundfish.

In 1994 the “other rockfish” assemblage was managed as bycatch-only by NMFS; through November only 43% of the allowable catch of this assemblage had been taken. According to ADF&G fish ticket data, approximately 4% of that harvest was pelagic shelf rockfish, of which less than 1% was black rockfish. ADF&G, with notification to NMFS and the North Pacific Fishery Management Council (NPFMC), assumed management authority of nearshore pelagic shelf rockfish for a state-water fishery by EO on December 21, 1994.

Registration for the black rockfish fishery was similar to other groundfish fisheries, except vessels were registered for only one month at a time. The short duration of the registration was to allow ADF&G greater control of the fishery and to be able to track who was actually fishing each month. All legal groundfish gear types, except seines, were allowed by regulation (pots, trawls, longlines, mechanical jigging machines, hand troll, and dinglebar troll gear). However, handlines and mechanical jigging machines were stipulated, by news release, as the only legal gear types for this fishery. These gear types have a low level of exploitation that would not threaten to exceed the federal TAC for the other rockfish category and do not have the federal prohibited species bycatch caps of other gear types.

In 1994, ADF&G established two areas of harvest in the eastern Aleutian Islands: the state waters around Unalaska, Sedanka and Unalga Islands, and the state waters around Akutan and Akun Islands (Figure 4). A GHL of 100,000 pounds was established for this fishery, with 50,000 pounds from each area (Tables 6 & 7). This harvest level was deemed sufficient to demonstrate fishery potential, yet conservative enough to prevent overharvest. A conservative management policy for these slow-growing, long-lived, and non-migratory species was considered necessary to prevent overexploitation. The nearshore rockfish fishery changed with the 1998 season when the area was expanded to include all state waters of the Aleutian Islands south of Cape Sarichef and west of Scotch Cap Light, and all federal waters of the Pacific Ocean between Scotch Cap Light and 170° W long. (Figure 5). As the management area expanded, ADF&G established a new area of harvest; those state waters west of 168° W long. The new area was established in response to public interest in a rockfish fishery in the vicinity of Atka Island. New GHLS were established which provided 40,000 pounds for both the Akutan and Unalaska Areas, and 20,000 pounds for the area west of 168° W long. At this time ADF&G also assumed management responsibility for black and blue rockfish in the waters of the EEZ in the Gulf of Alaska as the NPFMC passed Amendment 46 to the Groundfish Fishery Management Plan, delegating management to the state of Alaska. Black and blue rockfish are shallow water, nearshore pelagic shelf species that were not well assessed by federal surveys and not well addressed with existing federal management practices. This action limited the directed harvest to black rockfish in the Aleutian Islands since blue rockfish have a limited distribution in Alaska and do not occur in the Aleutian Islands. NMFS retained management authority over the other species of pelagic shelf rockfish (widow, yellowtail, and dusky rockfish) in federal waters. This group is fully utilized in the federal fisheries; therefore, dusky rockfish could now only be harvested as bycatch in the Aleutian Islands rockfish fishery.

The 1994 fishery opened at noon on December 21; only one vessel registered for the fishery. No harvest of pelagic shelf rockfish occurred in 1994 subsequent to the establishment of the directed fishery. In 1995, all harvest was incidental to the Pacific cod jig fishery. Fishing effort was minimal and sporadic throughout 1995. In 1996, landings increased in the Unalaska, Sedanka, and Unalga Islands Area. The principle area of harvest was from the waters just north of Unalaska Island. The primary species of harvest was black rockfish, although dusky rockfish was also harvested. No effort was reported from the Akutan and Akun Islands Area in 1996.

Fishing effort, in terms of number of landings and amount harvested, increased during 1997, but the number of participating vessels decreased. The majority of effort took place along the outer coast of Akutan Island and along the southern Unalaska coast. Both black and dusky rockfish

were landed. Logbook data submitted by one operator showed that dusky rockfish made up 28% of their harvest, however fish ticket data reflected that dusky rockfish made up a small percentage of the total rockfish landings. Area processors were notified of the possible misidentification and asked to provide positive identification of rockfish purchased. In addition, ADF&G provided identification information to personnel at those area processors.

The nature of the fishery changed in 1998. The fishery was dominated by short day trips and small loads. The average delivery in 1998 was lower compared to previous years, the average vessel length of participating vessels decreased from 36 feet to 23 feet, and the average trip length was less than one day in 1998 compared to approximately two days in prior years. All fishing effort occurred in the Akutan area.

ADF&G reduced the 1999 GHF from 40,000 pounds to 35,000 pounds in the Akutan and Unalaska Sections (Table 7). This reduction was due to departmental concerns of possible localized depletion of the black rockfish stock around Akutan Island and the eastern part of Unalaska Island. The GHF for the Western Section remained at 20,000 pounds. Since 1995, approximately 60% of the black rockfish harvested came from two statistical areas, one just south of Akutan Island and the other off the outer coast of Sedanka Island. Fishers were encouraged at that time to spread out their effort from previously fished areas to lessen the impact on those local populations. In the three years of harvest from the Akutan Section, 61% has come from the area just south of Akutan Island. In 1999, 62% of the harvest came from just south of Akutan Island, and most of it was from the waters between Talus Point and Green Bight. In 2000, this area was closed to the retention of black rockfish due to concerns of localized depletion in that area. In 2000, the Akutan and Unalaska Sections were divided into subsections, each with a separate GHF to disperse fishing effort (Table 8). These GHFs were based on the amount of potential black rockfish habitat as determined by coastline.

2001 Fishery

ADF&G announced the 2001 GHF by news release on March 16, with 35,000 pounds available in each, the Akutan and Unalaska Sections and 20,000 pounds available in the Western Section, the same as in 2000. The waters from the south end of Green Bight to Talus Point remained closed for the 2001 fishery.

The 2001 fishery was primarily managed by reviewing weekly processor reports and fish tickets, and maintaining contact with processors. Ten vessels registered for the 2001 fishery, but only three boats participated. Landings occurred during April, July and August; however, all harvest is confidential since less than three processors received deliveries. For the most part, participation in the black rockfish fishery was secondary to Pacific cod and halibut fishing efforts. Of the total harvest, over 98% was sold as food; the remaining was discarded. Most of the harvest came from the Akutan Section, and the smallest harvest came from the Western Section as incidental harvest. The majority of the harvest was landed with jig gear, and less than 1% was landed with longline gear.

The GHL of the Sedanka/Unalga Subsection of the Unalaska Section was reached and an EO was issued on July 19 announcing the closure of the subsection for 6:00 pm July 19. The GHLs of the remaining subsections were not attained during the 2001 fishery.

Summary

Total harvest since 1995 is approximately 186,000 pounds. Most of that harvest came from the area just south of Akutan Island and from the outside waters of Sedanka Island. The fishery value to date is approximately \$58,000. The fishery area expanded in 1998 to include all state waters of the Aleutian Islands west of Unalaska Island and federal waters of the Gulf of Alaska between 164°44' and 170° W long. The GHL was reduced by 10,000 pounds in 1999 due to concerns of local depletion. In 2000, the Akutan and Unalaska Sections were divided into several subsections in an attempt to disperse fishing effort. The area just south of Akutan Island between Talus Point and Green Bight has remained closed to the retention of black rockfish since 2000 to prevent localized depletion.

Status of Stock

There has been no stock assessment activity by ADF&G in the Aleutian Islands for black rockfish. ADF&G established a dockside-sampling program in 1999. Information obtained through this program will provide ADF&G with basic biological data, which may provide information for future management decisions. Dockside sampling efforts to obtain average length of black rockfish and average age through otolith analysis took place during 1997, 1999 and 2000 (Table 9). The groundfish port sampler position was vacant during 2001; therefore, sampling did not occur during that season.

ADAK VESSEL SIZE AND GEAR RESTRICTION ZONES

In March of 2000, BOF established gear and vessel length restrictions for Pacific cod and rockfish fisheries in the central Aleutian Islands. The areas affected by these new regulations are part of the nonexclusive BSAI Area. BOF defined two zones, each with different restrictions (Figure 6). The first zone includes state waters between Adak, Great Sitkin, and Tagalak Islands and waters adjacent to Adak Island in the Bay of Islands and between Boot Point and Cape Kagigikak. In this zone, a vessel longer than 60 feet in length overall may not be used to take Pacific cod or rockfish. This regulation is effective throughout the year. Legal gear types within this area are pot, longline, mechanical jig, and hand troll.

The second zone encompasses all state waters between 175°30' and 177° W long., and includes all waters defined in Zone 1. In this zone, a vessel longer than 60 feet in overall length may not be used to take Pacific cod from May 1 to September 15. Legal gear types within this area are also pot, longline, mechanical jig, and hand troll.

There are no restrictions on the amount of hand troll, longline, or pot gear. A maximum of five mechanical jig machines may be operated from a vessel. The vessel length and gear restrictions do not apply to fisheries for other species in these two zones.

ADF&G manages the black rockfish fishery in state waters; all vessels targeting this species must be registered with the department for this fishery. All other fisheries are managed as parallel fisheries, and vessels participating in those fisheries must be registered to fish in state waters of the Westward Region.

Inquiries were made about establishing these special harvest areas, and these new regulations generated a lot of initial interest; however, little fishing effort has occurred since their establishment. ADF&G did not have a mechanism in place to determine the exact participation in the fisheries affected by these regulations. ADF&G fish ticket data shows that ten vessels 60 feet and less harvested 16,010 pounds of Pacific cod, and four vessels harvested 3,988 pounds of rockfish from state waters in the Adak area in 2000 after July 5. New statistical areas became valid January 2001 allowing ADF&G to better track harvest in these zones. In 2001, sixteen vessels 60 feet or less harvested 1,270,102 pounds of Pacific cod, and six vessels harvested 5,256 pounds of rockfish.

GROUNDFISH HARVEST FROM STATE WATERS OF THE BERING SEA – ALEUTIAN ISLANDS AREA IN PARALLEL MANAGED FISHERIES

ADF&G manages the sablefish and black rockfish fisheries in the state waters of the BSAI Area (Figure 1); all other groundfish fisheries that occur in state waters are parallel fisheries, where the state mirrors the openings and legal gear types of the federal seasons. However, legal gear types in the “Adak Vessel Size And Gear Restriction Zones” are stipulated by the state. These fisheries are for Pacific cod, walleye pollock *Theragra chalcogramma*, Atka mackerel *Pleurogrammus monopterygius*, Pacific ocean perch, red rockfish (shortraker, rougheye, sharpchin and northern rockfish), Greenland turbot *Reinhardtius hippoglossoides*, arrowtooth flounder *Atheresthes stomias*, flathead sole *Hippoglossoides elassodon*, yellowfin sole *Pleuronectes asper*, rock sole *P. bilineatus*, an aggregated rockfish species complex, and an aggregated flatfish species complex. Although these fisheries take place primarily in federal waters of the EEZ, some of the harvest occurs in waters under the jurisdiction of the State of Alaska. The term “discarded” in the following discussion refers to harvested fish discarded at sea or at the dock; utilized fish are those retained for any product (including fish meal), bait, personal use, or by the observer.

Harvest of Pacific cod in the state waters of the BSAI Area during 2001 was 8.7 million pounds taken by 112 vessels with most of the harvest caught by trawl and longline vessels (Tables 10 & 11). The overall number of vessels and deliveries has decreased since 1995, probably due in part to Stellar sea lion no fishing and no transit areas in the Aleutians. Harvest of Pacific cod was predominately from the waters south of Cape Sarichef. Virtually all of the Pacific cod harvested was utilized. The 2001 harvest was below the recent average harvest of 15 million pounds.

Walleye pollock harvest in the state waters of the BSAI Area in 2001 was 5.5 million pounds and was taken by 37 vessels (Table 10). Over 55% of the harvest was from the waters north of 54°36' N lat., and most of that harvest came from the waters around Amak, Unimak and the Pribilof Islands. Walleye pollock harvest was primarily in directed fisheries with over 99% of the harvest taken by trawl vessels (Table 11). Virtually all of the pollock harvested was utilized. The harvest of walleye pollock from 1995 to 1998 was predominantly from the waters surrounding the Aleutian Islands. The recent decrease in harvest is mainly due to the closure of the Aleutian Islands west of 170° W long. to walleye pollock harvest. The number of vessels and deliveries has also recently declined.

Atka mackerel harvest in state waters around the Aleutian Islands in 2001 was 51,000 pounds, considerably less than in 2000. This could be due in part to new fishing regulations that were put in place to protect Stellar sea lions. All harvest of Atka mackerel occurred in waters south of the latitude of Cape Sarichef and was harvested primarily by trawl gear (Table 11). Most of the harvest was incidental to other fisheries, and only 44% of the harvest was utilized.

There are 34 species of rockfish in Alaskan waters, of which 13 occur in the BSAI Area (Kramer and O'Connell, 1988). For management purposes these species are put into five groups. Pacific ocean perch is one group; in the Aleutian Islands, shortraker and rougheye rockfish are considered as a group, while sharpchin and northern rockfish form another group. In the Bering Sea shortraker, rougheye, sharpchin and northern rockfish are combined to form the "other red rockfish" group. All remaining rockfish species comprise the "other rockfish" group.

Harvest of Pacific ocean perch during 2001 occurred entirely in the state waters of the Aleutian Islands District. Eight vessels harvested 5,600 pounds from state waters (Table 10). All harvest was incidental to other fisheries, 19% of which was discarded at sea or at shore prior to being processed, and the remainder was processed as fishmeal. Trawl vessels accounted for 100% of the total harvest (Table 11).

Twenty-two vessels harvested 8,100 pounds of shortraker and rougheye rockfish in state waters during 2001, harvested primarily with longline gear (Tables 10 & 11). This harvest is slightly lower than the previous six-year average of 11,000 pounds. All harvest was in the Aleutian Islands and was incidental harvest to other fisheries. Sixty-nine percent of the harvest was utilized.

Seven vessels harvested 11,500 pounds of sharpchin and northern rockfish in 2001 which totals approximately half the harvest seen in 2000, and is below the previous six-year average of 19,000 pounds. Trawl vessels took 89% percent of the harvest and the remainder was taken by longline vessels (Tables 10 & 11). Over 98% of this harvest was discarded.

Harvest of the "other" rockfish group has varied over the last seven years. Although the number of vessels remained relatively constant, the number of deliveries has not. Forty-two vessels harvested 55,000 pounds in 2001 (Table 10), all but 44 pounds were caught in state-waters of the Aleutian Islands District. Over 97% of the harvest was taken by longline vessels incidental to other fisheries (Table 11). Ninety-four percent taken from state waters was utilized. Harvest

included the following species of rockfish: dusky *Sebastes ciliatus*, silvergray *S. brevispinis*, yelloweye *S. ruberrimus* and thornyhead rockfish *Sebastolobus* spp. Thornyhead rockfish accounted for 79% of the rockfish harvested in the BSAI Area from 1995 through 2001. Redbanded *Sebastes babcocki*, and darkblotched *S. crameri* rockfish were also harvested in this area from 1995 through 1999. ADF&G fish ticket database also contains records of harvest for yellowmouth *Sebastes reedi*, greenstripe *S. elongatus*, rosethorn *S. helvomaculatus*, tiger *S. nigrocinctus* and copper *S. caurinus* rockfish although their occurrence in the BSAI Area is questionable, and could have been misidentified at the dock.

There are 30 species of flatfish in Alaskan waters, 26 of which occur in the BSAI Area (Kramer, et. al., 1995). For management purposes these species are split into five fisheries. There are fisheries for Greenland turbot, yellowfin sole, rock sole, and flathead sole. All remaining flatfish species are harvested in a fishery for the species complex called “other flatfish”.

The 2001 harvest of Greenland turbot from the BSAI Area was entirely from the state waters of the Aleutian Islands District. Thirty-two vessels harvested 147,825 pounds, primarily with longline gear (Tables 11 & 12). Approximately ninety-four percent of the harvest was utilized. The harvest of Greenland turbot in state waters has varied in recent years. While virtually all of the harvest occurred during the directed fishing season, most fishing effort was in conjunction with the Pacific halibut and sablefish fisheries.

State water harvest of arrowtooth flounder in 2001 was 33,894 pounds taken by thirty-nine vessels, primarily longline and trawl vessels (Tables 11 & 12). All harvest was incidental to other fisheries, and only 4% of the harvest was utilized, primarily as fishmeal. Ninety-seven percent of the harvest was from Aleutian Islands waters south of the latitude of Cape Sarichef.

Eighteen vessels harvested 117,115 pounds of rock sole in 2001 (Table 11 & 12). Trawl vessels harvested over 99% of the rock sole; of which only 3% was utilized (Table 11). Approximately 72% of the rock sole harvest occurred on the north side of the Alaska Peninsula, and the remainder was harvested from the waters of the Aleutian Islands.

State water harvest of yellowfin sole in 2001 was 61,311 pounds taken by eight vessels, primarily by trawl gear (Tables 11 & 12). All harvest was incidental to other fisheries and over 99% was discarded at sea. Almost all of the harvest came from the Bering Sea.

Twenty-one vessels harvested 22,219 pounds of flathead sole in 2001, primarily by trawl gear (Tables 11 & 12). Most of the harvest, which occurred incidental to other fisheries, came from the Bering Sea, primarily around Unimak Island. Only 12% of the harvest in 2001 was utilized, all of which was processed into fishmeal.

Harvest of fish in the “other flatfish” group has varied greatly from 1995 through 2001. In 2001 twelve vessels harvested 21,175 pounds (Table 11 & 12), of which just over 50% came from waters south of Cape Sarichef. All harvest was incidental to other fisheries, and less than one percent of the harvest was utilized, all of which was processed into fishmeal. Harvest included rex sole *Errex zachirus* and starry flounder *Platichthys stellatus*. Fifty percent of the fish were flounder, but were not identified to species. In previous years, Dover sole *Microstomus pacificus*,

Alaska plaice *Pleuronectes quadrituberculatus*, butter sole *Isopsetta isolepsis*, and English sole *Parophrys vetulus* were also harvested.

Summary

Harvest of fish from the state waters of Alaska, during parallel fisheries, from 1995 through 2001 has averaged approximately 28 million pounds per year and totaled more than 196 million pounds. The total harvest for that period included 93 million pounds of walleye pollock, 98 million pounds of Pacific cod, 1.3 million pounds of Atka mackerel, and approximately 713,000 pounds of all rockfish species, including Pacific ocean perch. Greenland turbot harvest during the seven-year period was 1.3 million pounds, arrowtooth flounder was approximately 920,000 pounds and rock sole was approximately 800,000 pounds. The remaining flatfish species harvest totaled just over 676,000 pounds. The harvest of walleye pollock from state waters generally varies according to the available TAC. Other groundfish harvest in state waters is generally independent of the TAC, and is probably due more to species distribution, prey distribution, weather, and other environmental factors.

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- Sigler, M., C. Lunsford, S. Lowe, and J. Fujioka. 2001. Alaska Sablefish Assessment for 2002. *in* Environmental Assessment for the Total Allowable Catch Specifications for the Year 2002 Alaska Groundfish Fisheries. National Marine Fisheries Service, Alaska Regional Office, Juneau, Alaska.

Table 1. Aleutian Islands state-waters sablefish fishery
GHLs compared to the Federal TAC, 1995 – 2001.

Year	Federal TAC ^{ab}	State-water GHL ^a	Harvest ^a
1995	8,377,556	400,000	269,220
1996	5,070,626	280,000	401,463
1997	5,070,626	270,000	317,562
1998	5,908,382	270,000	254,578
1999	5,996,566	250,000	279,778
2000	8,598,018	400,000	446,560
2001	8,950,757	425,000	464,241

^aIn whole pounds.

^bTotal allowable catch for the Bering Sea-Aleutian Islands Area.

Table 2. Guideline harvest level, number of vessels and deliveries, and harvest in the Aleutian Islands state-waters sablefish fishery, 1995 - 2001.

Year	Guideline Harvest Level ^a	Number of		Harvest ^a
		Vessels	Deliveries	
1995	400,000	35	59	269,220
1996	280,000	35	67	401,463
1997	270,000	37	75	317,562
1998	270,000	38	101	254,578
1999	250,000	24	38	279,778
2000	400,000	28	59	446,560
2001	425,000	31	99	464,241

^aIn whole pounds.

Table 3. Harvest in whole pounds by gear type in the Aleutian Islands state-waters sablefish fishery, 1995-2001.

Year	Longline	Trawl	Pot	Total
1995	227,917	41,303	0	269,220
1996	401,429	26	8	401,463
1997	312,506	20	5,036	317,562
1998	252,398	2,180	0	254,578
1999	272,240	6,268	1,270	279,778
2000	446,112	0	448	446,560
2001	439,612	210	24,419	464,241
Total	2,352,214	50,007	31,181	2,433,402

Table 4. Economic performance, season length, and dates in the Aleutian Islands state-waters sablefish fishery, 1995 - 2001.

Year	Fishery Value	Exvessel Value ^a	Season Length ^b	Season Dates	
				Opened	Closed
1995	\$502,000	\$2.96	245	15-March	15-Nov
1996	\$642,000	\$2.54	133	15-March	26-Jul
1997	\$710,000	\$3.55	127	15-March	20-Jul
1998	\$350,000	\$2.18	245	15-March	15-Nov
1999	\$474,000	\$2.69	154	15-March	16-Aug
2000	\$855,000	\$3.04	122	15-March	15-Jul
2001	\$788,000	\$2.85	85	15-May	8-Aug

^aPer pound dressed weight.

^bIn days.

Table 5. Percent of the fleet, deliveries, and harvest in the Aleutian Islands state-waters sablefish fishery by non-quota and quota vessels, 1995-2001.

Year	Non-quota ^a			Quota ^b		
	Fleet	Deliveries	Harvest	Fleet	Deliveries	Harvest
1995	23%	51%	38%	77%	49%	62%
1996	26%	49%	57%	74%	51%	43%
1997	43%	63%	53%	57%	37%	47%
1998	55%	74%	42%	45%	26%	58%
1999	29%	39%	53%	71%	61%	47%
2000	14%	41%	80%	86%	59%	20%
2001	74%	85%	93%	26%	15%	7%
Average	39%	62%	63%	61%	38%	37%

^aVessels without federal individual fishing quota or community development quota.

^bVessels with federal individual fishing quota or community development quota.

Table 6. Aleutian Islands state-waters black rockfish fishery harvest statistics and economic performance, 1994 – 2001.

Year	Guideline Harvest Level ^a	Number of		Harvest ^a	Exvessel Value ^b	Fishery Value
		Vessels	Deliveries			
1994 ^c	100,000			NO COMMERCIAL HARVEST		
1995 ^c	100,000			CONFIDENTIAL		
1996 ^c	100,000			CONFIDENTIAL		
1997 ^c	100,000	3	18	102,746	\$0.34	\$35,000
1998 ^d	100,000			CONFIDENTIAL		
1999 ^{de}	90,000	8	41	20,889	\$0.35	\$7,200
2000 ^d	90,000			CONFIDENTIAL		
2001 ^d	90,000			CONFIDENTIAL		

^aIn whole pounds.

^bPer pound whole weight.

^cTotals include black and dusky rockfish. In the early years of the fishery, dusky rockfish may have been misidentified as black rockfish; therefore harvest totals include both species.

^dBlack rockfish only.

^eEight pounds were harvested from the EEZ.

Table 7. Aleutian Islands state-waters black rockfish fishery harvest by section, 1994 – 2001.

Year	Akutan Section		Unalaska Section		Western Section	
	GHL ^a	Harvest	GHL ^a	Harvest	GHL ^a	Harvest
1994 ^b	50,000	0	50,000	0	NA	0
1995 ^b	50,000	0	50,000	Confidential	NA	0
1996 ^b	50,000	0	50,000	Confidential	NA	0
1997 ^b	50,000	Confidential	50,000	Confidential	NA	0
1998 ^c	40,000	Confidential	40,000	0	20,000	0
1999 ^{cd}	35,000	13,465	35,000	Confidential	20,000	Confidential
2000 ^c	35,000	Confidential	35,000	Confidential	20,000	Confidential
2001 ^c	35,000	Confidential	35,000	Confidential	20,000	Confidential

^aGuideline harvest level in whole pounds.

^bTotals include black and dusky rockfish. In the early years of the fishery, dusky rockfish may have been misidentified as black rockfish; therefore harvest totals include both species.

^cBlack rockfish only.

^dEight pounds were harvested from the EEZ.

NA = Not applicable.

Table 8. Aleutian Islands state-waters black rockfish fishery guideline harvest levels (GHL) in whole pounds, by section and subsection for the 2001 fishery.

Section	Subsection	GHL
Akutan	Akutan Island	10,000 Pounds
	Akun Island	10,000 Pounds
	Rootok Island	5,600 Pounds
	Tigalda Island	9,400 Pounds
	Total:	35,000 Pounds
Unalaska	Unalaska Bay/Wislow	3,000 Pounds
	Cape Kalekta/Unalga Island	3,600 Pounds
	West Unalaska	12,850 Pounds
	South Unalaska	12,300 Pounds
	Beaver Inlet/Sedanka Island	3,250 Pounds
	Total:	35,000 Pounds
Western	No Subsections	20,000 Pounds

Table 9. Black rockfish age (from otoliths) and length data, 1997 - 2001.

Year	Sample Size	Age ^a		Length ^b	
		Average	Range	Average	Range
1997	9	17.1	11 to 32	43.9	35 to 49
1998		NO DATA COLLECTED			
1999	92	15.9	8 to 30	45.3	37 to 51
2000	10	8.8	7 to 10	41.0	37 to 45
2001		NO DATA COLLECTED			

^aIn years.

^bIn centimeters.

Table 10. Harvest, number of vessels and deliveries from state waters of Alaska in the parallel managed Pacific cod, walleye pollock, Atka mackerel, Pacific ocean perch, shortraker/rougheye rockfish, sharpchin/northern rockfish, and other rockfish fisheries in the Bering Sea–Aleutian Islands Area, 1995-2001.

Year		Pacific Cod	Walleye Pollock	Atka Mackerel	Pacific Ocean Perch	Shortraker Rougheye Rockfish	Sharpchin Northern Rockfish	Other Rockfish
1995	Harvest ^a	20,539,276	28,412,682	440,476	33,883	14,080	2,186	27,125
	Vessels	155	46	36	18	19	5	37
	Deliveries	955	90	83	28	22	7	93
1996	Harvest	18,257,947	21,318,035	103,040	68,784	10,765	57,767	43,896
	Vessels	162	55	13	24	22	9	32
	Deliveries	893	102	21	36	27	11	57
1997	Harvest	4,550,359	18,763,624	17,710	10,532	8,325	0	21,198
	Vessels	108	37	8	17	23	0	32
	Deliveries	368	66	9	21	26	0	57
1998	Harvest	11,939,929	13,547,679	11,276	95,113	5,238	9,658	30,165
	Vessels	111	48	11	22	6	6	36
	Deliveries	374	93	14	36	11	7	102
1999	Harvest	18,340,012	1,509,911	534,477	38,743	11,299	22,257	26,007
	Vessels	138	24	14	13	9	14	31
	Deliveries	520	40	16	19	14	18	44

-Continued-

Table 10. (Page 2 of 2)

Year		Pacific Cod	Walleye Pollock	Atka Mackerel	Pacific Ocean Perch	Shortraker Rougheye Rockfish	Sharpchin Northern Rockfish	Other Rockfish
2000	Harvest	15,617,783	3,593,603	170,829	4,672	15,542	23,741	51,590
	Vessels	164	37	17	8	21	16	34
	Deliveries	580	53	25	10	28	25	74
2001	Harvest	8,732,444	5,497,150	50,893	5,646	8,079	11,583	55,169
	Vessels	112	37	16	8	22	7	42
	Deliveries	288	50	22	10	35	8	109

^aIn whole pounds

Table 11. Harvest in whole pounds by gear type from state waters of Alaska in the parallel managed Pacific cod, walleye pollock, Atka mackerel, Pacific ocean perch, shortraker/rougheye rockfish, sharpchin/northern rockfish, other rockfish, Greenland turbot, arrowtooth flounder, rock sole, yellowfin sole, flathead sole, and other flatfish fisheries in the Bering Sea-Aleutian Islands Area, 1995-2001.

Fishery	Year	Trawl	Longline	Pot	Mechanical Jig	Hand Troll
Pacific Cod						
	1995	12,265,060	2,003,742	5,496,569	769,828	4,077
	1996	5,857,109	446,532	11,546,495	393,159	14,652
	1997	814,481	1,476,499	2,048,986	208,215	2,178
	1998	3,975,800	4,128,820	3,624,994	209,937	379
	1999	8,995,797	1,447,771	7,542,991	353,454	0
	2000	5,378,628	3,612,076	6,524,176	102,063	840
	2001	3,819,442	3,879,698	918,731	114,572	0
Pollock						
	1995	28,411,848	15	171	648	0
	1996	21,220,981	0	97,055	0	0
	1997	18,736,861	3	24,595	2,165	0
	1998	13,540,291	6,114	1,274	0	0
	1999	1,508,674	918	319	0	0
	2000	3,583,310	5,339	4,954	0	0
	2001	5,469,771	27,247	132	0	0
Atka Mackerel						
	1995	434,834	2	4,447	1,193	0
	1996	102,296	0	744	0	0
	1997	17,664	3	43	0	0
	1998	11,161	0	115	0	0
	1999	533,652	675	150	0	0
	2000	164,118	5,930	781	0	0
	2001	45,124	5,058	711	0	0

-Continued-

Table 11. (Page 2 of 4)

Fishery	Year	Trawl	Longline	Pot	Mechanical Jig	Hand Troll
Pacific ocean perch						
	1995	33,728	0	93	62	0
	1996	68,784	0	0	0	0
	1997	6,838	0	3,694	0	0
	1998	95,113	0	0	0	0
	1999	37,838	9	896	0	0
	2000	4,290	382	0	0	0
	2001	5,646	0	0	0	0
Shortraker-Rougheye Rockfish						
	1995	241	13,645	0	194	0
	1996	519	10,246	0	0	0
	1997	1,078	7,247	0	0	0
	1998	1,732	3,506	0	0	0
	1999	1,207	10,092	0	0	0
	2000	169	12,976	0	0	0
	2001	0	8,020	59	0	0
Sharpchin-Northern Rockfish						
	1995	2,186	0	0	0	0
	1996	57,746	0	21	0	0
	1997	0	0	0	0	0
	1998	9,658	0	0	0	0
	1999	21,811	184	262	0	0
	2000	16,065	7,592	5	80	0
	2001	7,094	4,489	0	0	0
Other Rockfish						
	1995	1,376	25,402	20	327	0
	1996	112	43,613	81	90	0
	1997	757	20,115	26	300	0
	1998	4,777	25,230	158	0	0
	1999	9,308	16,518	180	0	0
	2000	1,072	50,409	24	85	0
	2001	1,605	53,281	282	0	0

-Continued-

Table 11. (Page 3 of 4)

Fishery	Year	Trawl	Longline	Pot	Mechanical	Hand
					Jig	Troll
Greenland turbot						
	1995	174,281	111,906	18	4	0
	1996	760	175,618	0	0	0
	1997	1,417	93,250	0	0	0
	1998	1,022	338,314	0	0	0
	1999	11,138	74,419	1,051	0	0
	2000	1,523	123,453	5	0	0
	2001	55	145,592	2,177	0	0
Arrowtooth flounder						
	1995	11,484	9,009	26	283	0
	1996	33,038	1,451	27	0	0
	1997	16,035	4,882	30	0	0
	1998	30,340	832	0	0	0
	1999	749,169	3,457	0	0	0
	2000	11,520	14,905	85	0	0
	2001	13,130	17,968	2,797	0	0
Rock sole						
	1995	52,460	0	110	0	0
	1996	121,696	0	12	0	0
	1997	63,863	0	50	0	0
	1998	135,519	0	17	0	0
	1999	210,956	0	271	0	0
	2000	94,228	1	24	0	0
	2001	117,098	17	0	0	0
Yellowfin sole						
	1995	170	0	2,887	0	0
	1996	87,333	0	669	0	0
	1997	10	0	83	0	0
	1998	9,694	0	77	0	0
	1999	55,521	3	1,164	0	0
	2000	452	636	38	0	0
	2001	61,307	0	4	0	0

-Continued-

Table 11 (Page 4 of 4)

Fishery	Year	Trawl	Longline	Pot	Mechanical	Hand
					Jig	Troll
Flathead sole						
	1995	2,064	0	55	0	0
	1996	70,285	0	5	0	0
	1997	27,332	0	0	0	0
	1998	39,119	0	2,768	0	0
	1999	77,466	431	300	0	0
	2000	10,895	240	81	0	0
	2001	20,836	746	6	0	0
Other flatfish						
	1995	854	0	357	0	0
	1996	39,658	10	2	0	0
	1997	30,836	0	81	0	0
	1998	59,618	5	1,017	0	0
	1999	46,405	0	0	0	0
	2000	3,011	1	40	0	0
	2001	21,175		0	0	0

Table 12. Harvest, number of vessels and deliveries from state waters of Alaska in the parallel managed Greenland turbot, arrowtooth flounder, rock sole, yellowfin sole, flathead sole, and other flatfish fisheries in the Bering Sea-Aleutian Islands Area, 1995 - 2001.

Year		Greenland Turbot	Arrowtooth Flounder	Rock Sole	Yellowfin Sole	Flathead Sole	Other Flatfish
1995	Harvest ^a	286,209	20,802	52,570	3,057	2,119	1,211
	Vessels	24	31	12	7	10	10
	Deliveries	40	60	23	14	17	18
1996	Harvest	176,378	34,516	121,708	88,002	70,290	39,670
	Vessels	33	30	24	17	22	26
	Deliveries	49	42	40	24	36	37
1997	Harvest	94,667	20,947	63,913	93	27,332	30,917
	Vessels	25	18	12	5	9	12
	Deliveries	46	29	21	7	20	27
1998	Harvest	339,336	31,172	135,536	9,771	41,887	60,640
	Vessels	26	17	25	13	19	30
	Deliveries	81	31	47	15	37	53
1999	Harvest	86,608	752,627	211,227	56,688	78,197	46,646
	Vessels	17	19	20	9	13	13
	Deliveries	30	34	42	12	28	17

-Continued-

Table 12. (Page 2 of 2)

Year		Greenland Turbot	Arrowtooth Flounder	Rock Sole	Yellowfin Sole	Flathead Sole	Other Flatfish
2000	Harvest	124,981	26,510	94,254	1,126	11,216	3,052
	Vessels	21	28	24	5	20	10
	Deliveries	41	44	45	5	26	11
2001	Harvest	147,825	33,894	117,115	61,311	22,219	21,175
	Vessels	32	39	18	8	21	12
	Deliveries	72	61	25	11	27	16

^aIn whole pounds.

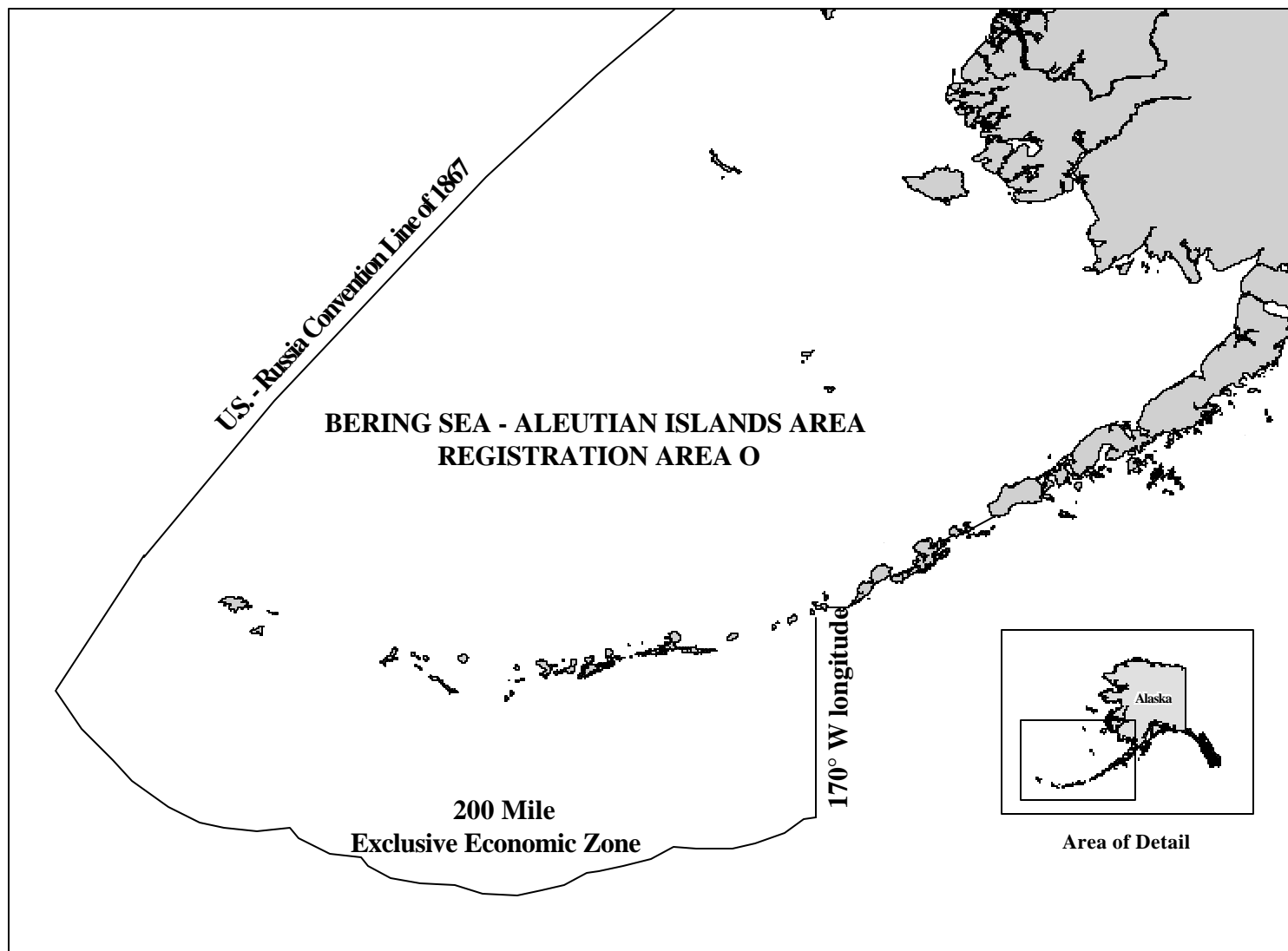


Figure 1. The Bering Sea – Aleutian Islands Area for groundfish management.

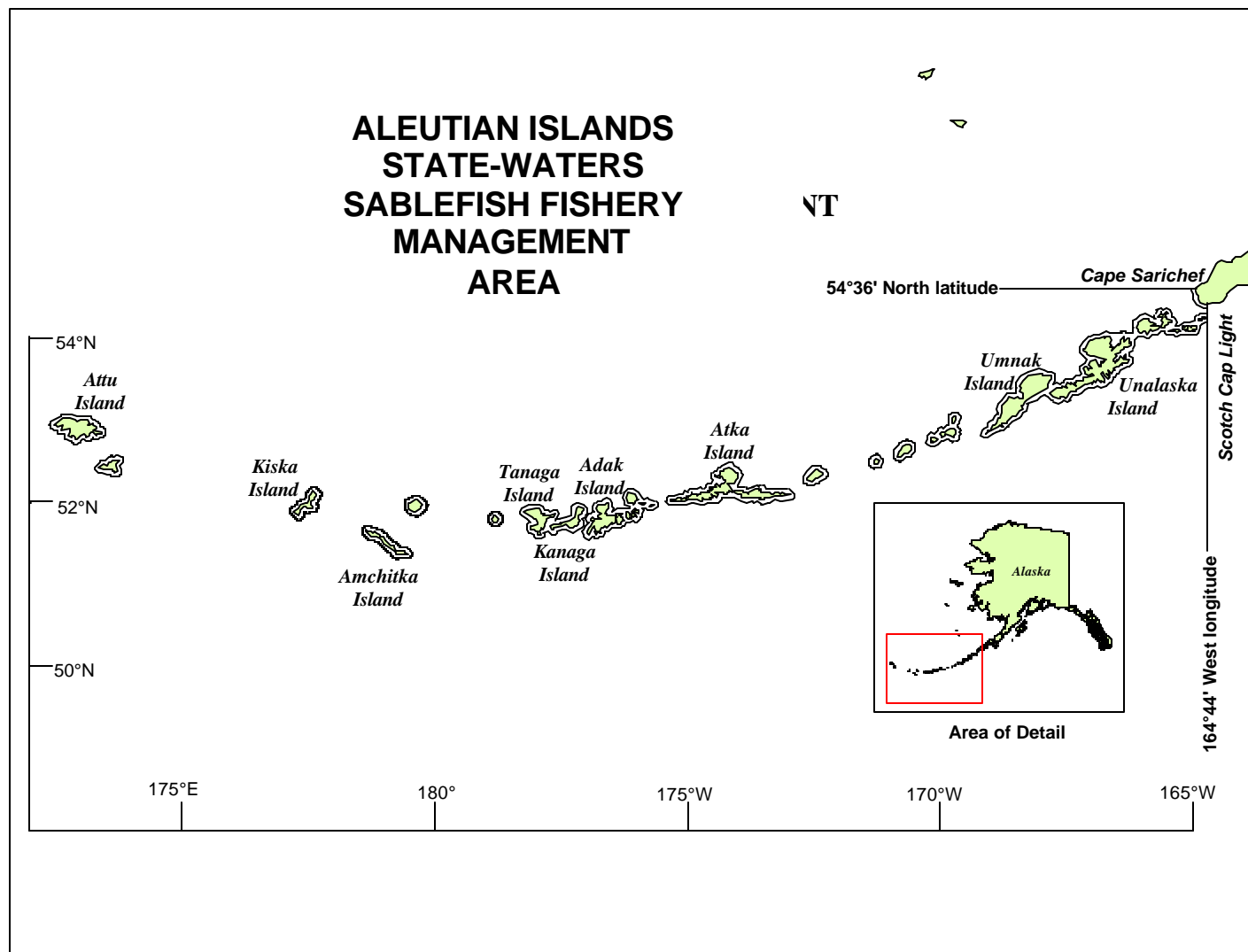


Figure 2. The Aleutian Islands state-waters sablefish fishery management area.

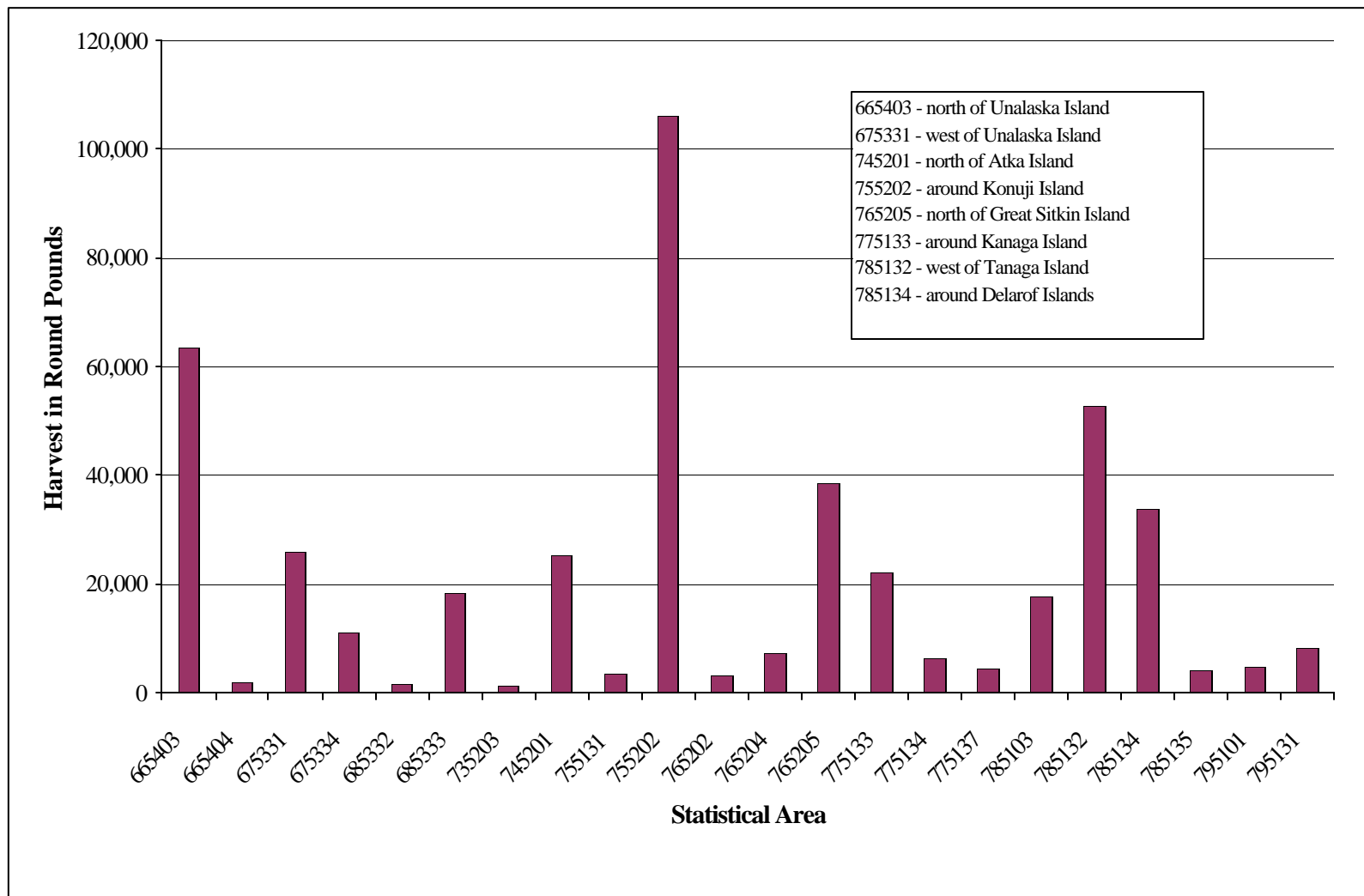


Figure 3. Harvest of Aleutian Islands state-waters sablefish in 2001 showing statistical areas where harvest over 1,000 pounds occurred, noting the islands adjacent to the waters with a harvest of 20,000 pounds or more.

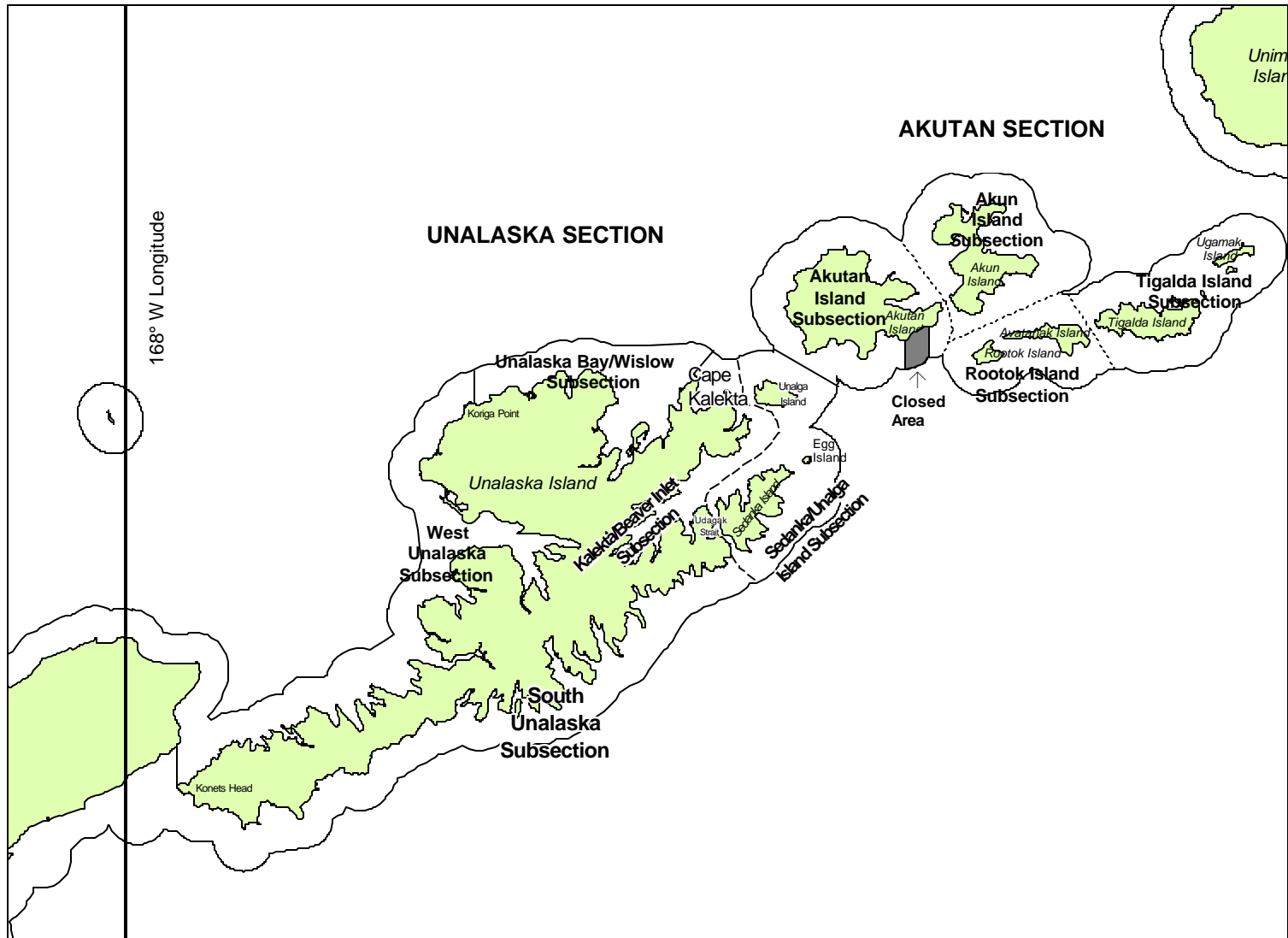


Figure 4. Subsections of the Unalaska and Akutan Sections of the 2001 Aleutian Islands state-waters black rockfish fishery.

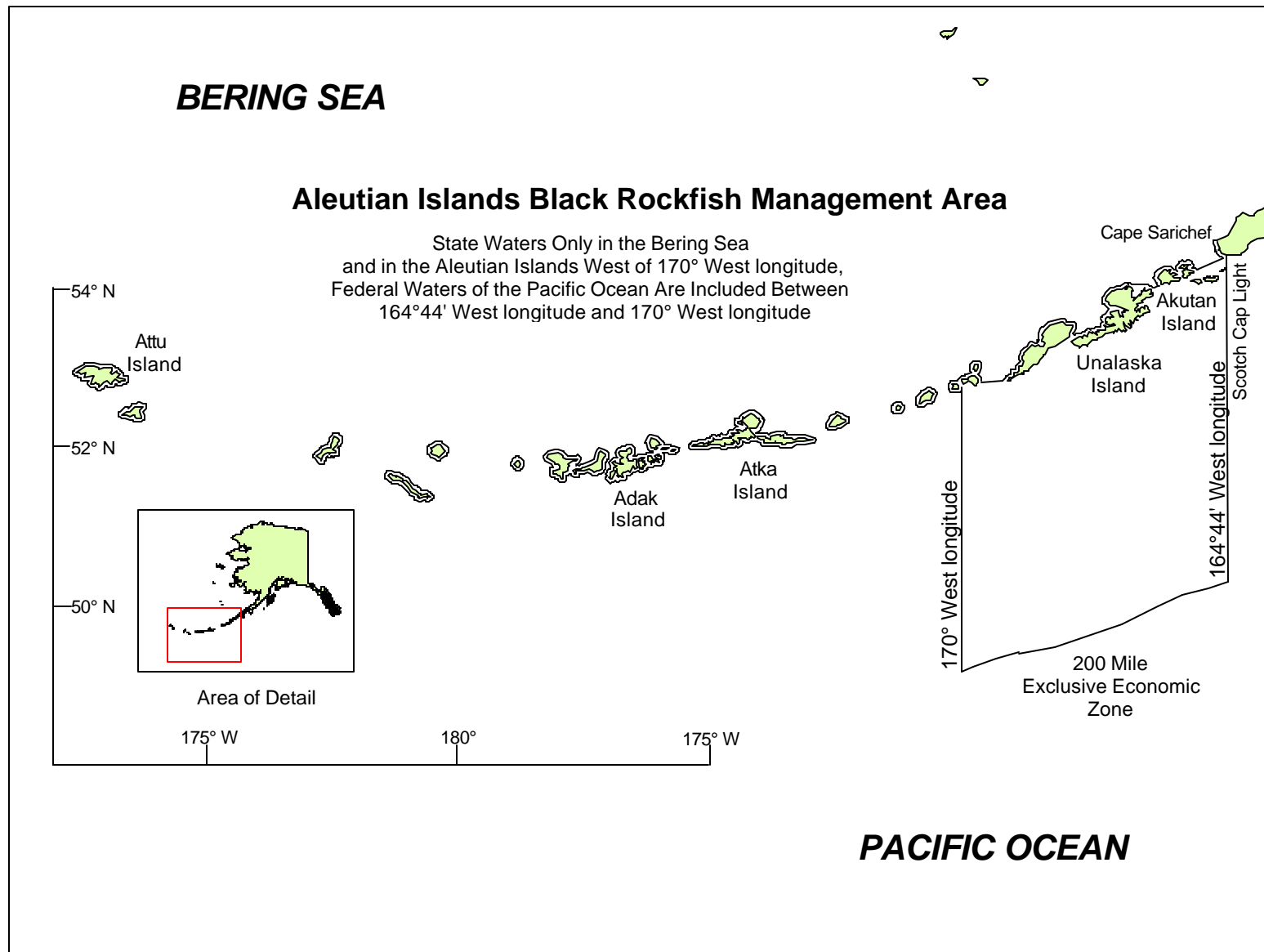


Figure 5. The Aleutian Islands state-waters black rockfish management area.

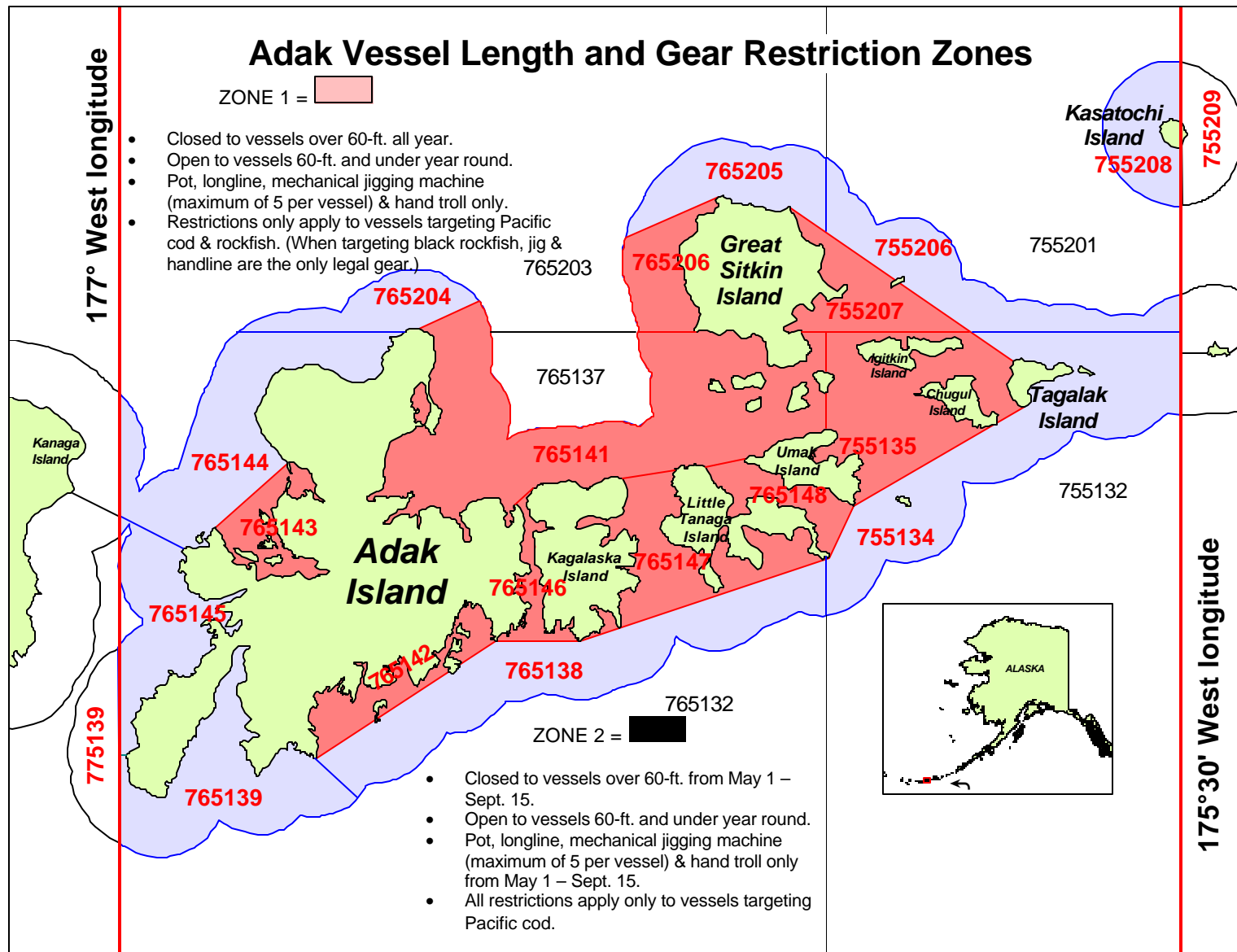


Figure 6. Adak vessel length and gear restriction zones and statistical reporting areas.

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